

NOTE

Synoditella bisulcata (Kieffer) (Hymenoptera: Scelionidae) parasitizing *Orphulella punctata* (DeGeer) (Orthoptera: Acrididae) in the Dominican Republic

A recent survey of the Hispaniolan orthopteroid insects has given us the opportunity to obtain more detailed knowledge of the distribution, ecological preferences, and natural enemies of the grasshopper fauna of this Caribbean island. Grasshopper populations are regularly parasitized or preyed upon by insects of several other orders (flies, beetles, and wasps) (Greathead 1963). Several genera of the family Scelionidae specialize on parasitizing grasshopper eggs (Dysart 1996). In phoretic scelionids, females attach to female grasshoppers in order to be transported to the host oviposition site. In North America two scelionid genera are known to develop as parasites in the eggs of grasshoppers: *Scelio* Latreille, which contains 19 species, and *Synoditella* Muesebeck, with two species (Muesebeck 1972). *Synoditella bisulcata* (Kieffer) was reported from Texas, Kansas, South Carolina, Tennessee, Michigan, Illinois, South Dakota, Arizona, California, and Mexico, parasitizing the eggs of eight different grasshopper species (six in the genus *Melanoplus*, *Dichromorpha viridis* Scudder, and *Chortophaga viridifasciata* (DeGeer) (Muesebeck 1972). Masner (1976) recorded the genus *Synoditella* without specifying the species from Dominican Republic, Jamaica, Panama, and Mexico. The entomological survey of Navarro and Bastardo (1993) conducted on the beachfront of Santo Domingo (Parque Litoral Sur) recorded several specimens of these wasps, then identified as *Macroteleia* cf. *erythropus* Cameron.

This note is to report that *S. bisulcata* appears to be widespread in the Dominican Republic. This species is found sporadically attached to females of the gomphocerine grasshopper *Orphulella punctata* (DeGeer).

We have occasionally observed these small wasps attached by their mandibles (up to three individuals on a host) to the dorsal abdominal cuticle under the wings of female *O. punctata* (Fig. 1). In 2001, we sent one specimen to Dr. Lubomir Masner, who identified the species as *S. bisulcata*. Females of this species are 3–3.6 mm in length, have a generally black body, clubbed antenna, disk of scutellum shiny and legs yellowish with brown to black coxae. We have never noticed these wasps on females of the two other *Orphulella* species (*O. decisa* (Walker) and *O. nescios* Otte) endemic to the island. This could be related to the fact that both of these species are brachypterous grasshoppers.

Collection records: 1 ♀ “RD: Prov. Peravia, San José de Ocoa, próximo al vivero de Agricultura en Sabana Larga, 26 xi 1999, R. Bastardo, F. Jiménez” [National Museum of Natural History, Smithsonian Institution, Washington, DC (NMNH)]; 1 ♀ “DOMINICAN REPUBLIC, RD-185 ~3 km S Cruce de Guayacanes, Valverde Prov., 19°38.779'N 71°03.717'W, 40 m, 6.xii.2003, D. Perez, R. Bastardo, A. Marmolejos” [Museo de Historia Natural Dominicano, MHND]; 1 ♀ “DOMINICAN REPUBLIC RD-200 ~2 km W San Rafael del Yuma, nr. dump site, 75 m, 18°26.276'N 68°41.520'W, D. Perez, R. Bastardo” [MHND]; 1 ♀ “DOMINICAN REPUBLIC RD-203 Rd. El Seibo—Miches, El Seibo prov., 18°55.435'N 69°07.065'W, 18.xii.2003, D. Perez, B. Hierro, R. Bastardo” (NMNH); 1 ♀ “km 6.5 Av. G. Washington, estación III, Santo Domingo, D. N. 3.iii.1992, S. Navarro, R. Bastardo”; 3 ♀ “Between Obelisco hembra y Monumento a Fray Antón de Montesinos, estación I, Santo Domingo, D. N., 29.iii.1992, S. Na-

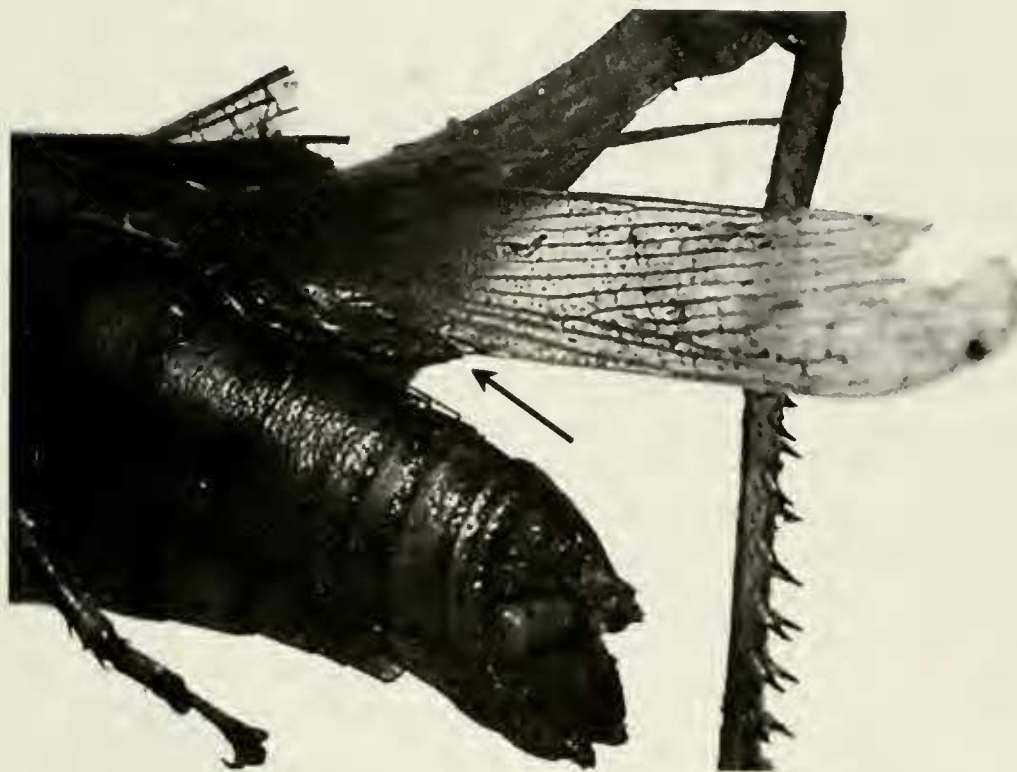


Fig. 1. Female of *Synoditella bisulcata* attached by its mandibles to the dorsal abdominal area of an *Orphulella punctata* female grasshopper.

varro, R. Bastardo.” [Collection of R. Bastardo]. All eight individuals were taken from *O. punctata* females.

The wide-ranging distribution of these localities in the Dominican Republic suggests that *S. bisulcata* is widely distributed throughout grassy areas in Hispaniola’s lowlands, which are the preferred habitats of *O. punctata*.

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LITERATURE CITED

Dysart, R. J. 1996. Insect predators and parasites of grasshopper eggs. In Cunningham, G. L. and M. W. Sampson, Technical coordinators. Grasshoppers: Their Biology, Identification and Management. User Handbook, United States Department of Agriculture, APHIS Technical Bulletin No. 1809: I.7-1–I.7.3.

Greathead, D. J. 1963. A review of the insect enemies of Acridoidea (Orthoptera). Transactions of the Royal Entomological Society of London 114: 437–517.

Masner, L. 1976. Revisionary notes and keys to world genera of Scelionidae (Hymenoptera: Proctotrupeoidea). Memoirs of the Entomological Society of Canada No. 97: 1–87.

Muesebeck, C. F. W. 1972. Nearctic species of Scelionidae (Hymenoptera: Proctotrupeoidea) that parasitize the eggs of grasshoppers. Smithsonian Contributions to Zoology 122: 1–31.

Navarro, S. and R. Bastardo. 1993. Introducción al Estudio de los Insectos del Parque Nacional Litoral Sur Porción Occidental de Santo Domingo. Bachelor’s Thesis in Biology, Universidad Autónoma de Santo Domingo, Santo Domingo, 114 pp. [unpublished].

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